



10/632,573

## DISINFECTING ARTICLE WITH EXTENDED EFFICACY

What is claimed is:

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1. A disinfecting article comprising:
    - a. an aqueous hypochlorite releasing composition,
    - b. an absorbent carrier, and
    - c. a packaging system dispensibly housing a single or multiple number of disinfectant substrates, wherein said disinfectant article maintains the stability of the hypochlorite releasing composition of at least 25% after 11 days at 120° F.
  2. ~~X~~ The disinfecting article of Claim 1, wherein the absorbent carrier material is impregnated with a disinfecting amount of said aqueous hypochlorite releasing composition.
  3. ~~X~~ The disinfecting article of Claim 1, wherein said absorbent carrier comprises a synthetic polymer substrate comprising polyester, polyethylene, hydrophobically or hydrophilically modified polyester, or mixtures thereof.
  4. ~~X~~ The disinfecting article of Claim 1, wherein said absorbent carrier further comprises a substantially attached layer of a liquid impervious barrier, said barrier substantially attached to at least one portion of the absorbent carrier so as to provide a liquid impervious barrier between the absorbent carrier and a gripping means, wherein said liquid impervious barrier substantially prevents contact of the aqueous disinfectant composition with said gripping means.
  5. ~~X~~ The disinfecting article of Claim 1, wherein said absorbent carrier attaches to a cleaning implement.
  6. ~~X~~ The disinfecting article of Claim 1, wherein the aqueous hypochlorite releasing compositions comprises:
    - a. an alkali metal hypochlorite,
    - b. a source of alkalinity, and
    - c. optionally, one or more hypochlorite stable adjuncts, such as surfactants, hydrotropes, stabilizers, sequestrants, thickeners, rheology modifiers, tensides, phase transfer agents, wetting agents, anti-foam agents, fragrances, colorants, pigments, dyes and the like, or any mixture thereof.
  7. ~~X~~ The disinfecting article of Claim 6, wherein the alkali metal hypochlorite is sodium hypochlorite, and wherein the source of alkalinity comprises sodium or potassium hydroxide.
  8. ~~X~~ The disinfecting article of Claim 6, wherein the alkali metal hypochlorite is sodium hypochlorite, and wherein the source of alkalinity comprises borates, polyphosphates, pyrophosphates, triphosphates, tetraphosphates, silicates, metasilicates, polysilicates, carbonates, or a mixture thereof.
  9. ~~X~~ The disinfecting article of Claim 1, wherein said packaging system is adapted to securely hold a single or multiple number of disinfecting articles, wherein the storage system comprises a substantially liquid impervious sealable package means.

18. ~~17~~<sup>18</sup> A method of disinfecting hard surfaces comprising treating the hard surface with the disinfecting article of Claim ~~17~~<sup>18</sup>, wherein the alkali metal hypohalite is sodium hypochlorite, and wherein the source of alkalinity comprises sodium or potassium hydroxide.
19. ~~18~~<sup>19</sup> A method of disinfecting hard surfaces comprising treating the hard surface with the disinfecting article of Claim ~~17~~<sup>18</sup>, wherein the alkali metal hypohalite is sodium hypochlorite, and wherein the source of alkalinity comprises borates, polyphosphates, pyrophosphates, triphosphates, tetraphosphates, silicates, metasilicates, polysilicates, carbonates, or a mixture thereof.
20. ~~19~~<sup>20</sup> A method of disinfecting hard surfaces comprising treating the hard surface with the disinfecting article of Claim ~~12~~<sup>13</sup>, wherein said packaging system is adapted to securely hold a single or multiple number of disinfecting articles, wherein the storage system comprises a substantially liquid impervious sealable package means.
21. ~~20~~<sup>21</sup> A method of disinfecting hard surfaces comprising treating the hard surface with The disinfecting article of Claim ~~12~~<sup>13</sup>, wherein said packaging system is adapted to securely hold a single or multiple number of disinfecting articles, wherein the storage system comprises a substantially gas impervious sealable package means.
22. ~~21~~<sup>22</sup> A method of disinfecting hard surfaces comprising treating the hard surface with the disinfecting article of Claim ~~12~~<sup>13</sup>, wherein said packaging system comprises a substantially liquid impervious sealable pouch, container, tub or cylindrical package, or combination thereof, and wherein said package means provides for the storage of a single or multiple number of disinfecting articles.
23. ~~22~~<sup>23</sup> A hypochlorite disinfecting wipe with improved stability that provides superior germ killing on surfaces such as countertops, floors, beds, walls, doorknobs, toilet seats, and the like.

10. ~~9~~ The disinfecting article of Claim 1, wherein said packaging system is adapted to securely hold a single or multiple number of disinfecting articles, wherein the storage system comprises a substantially gas impervious sealable package means.
11. ~~10~~ The disinfecting article of Claim 1, wherein said packaging system comprises a substantially liquid impervious sealable pouch, container, tub or cylindrical package, or combination thereof, and wherein said package means provides for the storage of a single or multiple number of disinfecting articles.
12. ~~11~~ A method of disinfecting hard surfaces comprising treating the hard surface with a disinfecting article comprising:
  - a. an aqueous hypochlorite releasing composition,
  - b. an absorbent carrier, and
  - c. a packaging system dispensibly housing a single or multiple number of disinfectant substrates, wherein said disinfectant article maintains the stability of the hypochlorite releasing composition of at least 25% after 11 days at 120° F.
13. ~~12~~ A method of disinfecting hard surfaces comprising treating the hard surface with the disinfecting article of Claim ~~12~~<sup>13</sup>, wherein the absorbent carrier material is impregnated with a disinfecting amount of said aqueous hypochlorite releasing composition.
14. ~~13~~ A method of disinfecting hard surfaces comprising treating the hard surface with the disinfecting article of Claim ~~12~~<sup>13</sup>, wherein said absorbent carrier comprises a synthetic polymer substrate comprising polyester, polyethylene, hydrophobically or hydrophilically modified polyester, or mixtures thereof.
15. ~~14~~ A method of disinfecting hard surfaces comprising treating the hard surface with the disinfecting article of Claim ~~12~~<sup>13</sup>, wherein said absorbent carrier further comprises a substantially attached layer of a liquid impervious barrier, said barrier substantially attached to at least one portion of the absorbent carrier so as to provide a liquid impervious barrier between the absorbent carrier and a gripping means, wherein said liquid impervious barrier substantially prevents contact of the aqueous disinfectant composition with said gripping means.
16. ~~15~~ A method of disinfecting hard surfaces comprising treating the hard surface with the disinfecting article of Claim ~~12~~<sup>13</sup>, wherein said absorbent carrier attaches to a cleaning implement.
17. ~~16~~ A method of disinfecting hard surfaces comprising treating the hard surface with the disinfecting article of Claim ~~12~~<sup>13</sup>, wherein the aqueous hypochlorite releasing compositions comprises:
  - a. an alkali metal hypochlorite,
  - b. a source of alkalinity, and
  - c. optionally, one or more hypochlorite stable adjuncts, such as surfactants, hydrotropes, stabilizers, sequestrants, thickeners, rheology modifiers, tensides, phase transfer agents, wetting agents, anti-foam agents, fragrances, colorants, pigments, dyes and the like, or any mixture thereof.